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ABSTRACT

New threats to the health of American children, often psychosocial in nature due to societal changes, must be addressed. The Minnesota School Health Education Model is based on the integration of four primary components: (1) school health education goals aimed at health promotion, disease prevention, and long-term positive health effects on families and communities; (2) measurable behavioral learner outcomes; (3) demonstrated student competencies; and (4) teaching strategies. This program identifies 11 specific goals developed by nearly 700 Minnesota health and education professionals with assistance from the United States Public Health Service, the Institute of Medicine, and the Centers for Disease Control, with attention to the National Health Objectives for the Year 2000. Behavioral learner outcomes are expected for each goal. Students are then able to acquire four cognitive, affective, and skill competencies: knowledge, attitudes, personal skills, and social action. This model program is dedicated to improving the health of students, their families, and their communities through use of this broad, integrated approach in the classroom. A diagram of the Minnesota School Health Education Model and samples of an instructional dimension and related teaching strategy are appended. (Contains 13 references.) (Author/LL)

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An Innovative School Health Education Model Designed for Student Achievement

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Article

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Article

AN INNOVATIVE SCHOOL HEALTH EDUCATION MODEL DESIGNED FOR STUDENT ACHIEVEMENT

ABSTRACT

New threats to the health of American children, often psychosocial in nature due to changes in our society, must be addressed. The Minnesota School Health Education Model is based on the integration of four primary components: 1) school health education goals aimed at health promotion, disease prevention, and long-term positive health effects on families and communities; 2) measurable behavioral learner outcomes; 3) demonstrated student competencies; and 4) teaching strategies. This program identifies eleven specific goals developed by nearly seven hundred Minnesota health and education professionals with assistance from the United States Public Health Service, the Institute of Medicine, and the Centers for Disease Control, with attention to the National Health Objectives for the Year 2000. Behavioral learner outcomes are expected for each goal. Students are then able to acquire four cognitive, affective and skill competencies: knowledge, attitudes, personal skills, and social action. This model program is dedicated to improving the health of students, their families, and their communities by using this broad, integrated approach in the classroom.

AN INNOVATIVE SCHOOL HEALTH EDUCATION MODEL DESIGNED FOR STUDENT ACHIEVEMENT

CHILDREN'S HEALTH TODAY

New threats to the health of American children and youth, often psychosocial in nature due to changes in our society, must be addressed. Since 1910 local and national public health efforts have greatly reduced infectious disease, previously the major cause of death and disability to children. But while improved sanitation, nutrition, and housing as well as the use of vaccines and antibiotics have enabled many children to live longer and healthier lives, new dangers threaten children's health and vitality. Injuries, not disease, are the leading causes of death for all children under age 19. Nearly three-quarters of all recent deaths to Minnesota children ages 5-19 can be accounted for by potentially preventable injuries (primarily motor vehicle), suicide, and homicide (Minnesota Dept. of Health, 1990).

The health problems of our student population are increasingly psychosocial in nature, affecting physical as well as mental and emotional development. Unintentional injuries, learning disorders, behavioral problems, teenage pregnancies, alcohol and drug abuse, and sexually transmitted diseases are now typical health problems among children and youth. Many of these conditions are linked to changes affecting the family, such as poverty, increased mobility, poor nutrition, insufficient intellectual and psychological stimulation, media influences, and congenital or acquired handicaps (American School Health Assoc., 1989 & Wandberg, 1990).

School health professionals know that young people with health problems, be they physical, emotional, or social in nature, may be at great disadvantage in the classroom. Motivation and interest in learning are affected, thereby reducing educational performance. Yet these problems, if dealt with through appropriate curriculum and services, need not lead to academic failure (American School Health Assoc., 1991 & National School Boards Assoc., 1991).

A sound education in health and in other traditional academic areas is critical for young people to reach maximum potential in their present as well as future endeavors. The job market for the year 2000 will demand that today's young person complete no less than high school if that individual is to become a viable part of society. Good health and health practices at an early age are imperative if our youth are to compete in the world of the 21st century (Childrens Defense Fund, 1991).

The patterns that determine what we eat, how we cope with stress, and other health behaviors are often established during childhood. Efforts to prevent illness and chronic disease in adults must, therefore, begin by focusing on the behavior patterns and perceptions of children. To maximize the likelihood that young people will develop positive health practices, health promotion and education must begin in early childhood. Screening programs for pre-school children aimed at early identification and follow-up of health and

developmental problems are essential. Health education during early childhood and through adolescence must be part of standard curriculum in order to build a foundation on which attitudes toward health and behavior patterns affecting health are established. (Code Blue, 1990, Lavin, 1992 & Am. Assoc. of School Administrators, 1990)

Educating students about health can also benefit their family and community. Adolescents who go on to become parents will influence the health and health awareness of their own children and must know how and when to use health care services and personnel. As citizens, they will influence others by personal behavior and will participate in decisions affecting the environment and health care system. To meet the challenges of developing a healthy student population, it is essential that school health education goals and outcomes be linked with broader community, state, and national objectives (Wandberg, 1990).

Health professionals advocate that for effective program planning, the ultimate goal for health education should be kept in mind: that personal actions become deeply satisfying and humanly constructive. The attainment of this goal requires a comprehensive school health program: 1) that emphasizes broad based constructive action in the shaping and reshaping of human lives for better health, rather than a program aimed solely at the acquisition of knowledge about health; and 2) of broad curricular scope and methodological diversity, rather than a program focused on narrow topical or limited methodology (AAHE Bd. of Directors, 1992).

PURPOSE OF THE PROJECT

Efforts to enhance the health status of children and youth in Minnesota is not a new concern to public schools. The past decade in Minnesota has seen remarkable expansion of policies and programs. Much of this expansion has been triggered by a series of research studies, such as The Minnesota Student Survey Report 1989 (Minnesota Dept. of Education, 1989) showing that many health compromising behaviors have reached epidemic proportions. It must become commonplace throughout Minnesota for health educators (K-12) to provide meaningful instruction by addressing school health student competencies. Often, overwhelming demands on a teacher's time, energy, and skill create barriers to instruction. Unfortunately, school health education content is often a classroom casualty when overall school district curricular decisions are made. However, by responding to the 1989 report, health educators have proposed the development of a school health education program representing educational experiences which assist the student in the recognition and adoption of less risky behaviors. The result is the Minnesota School Health Education Model: A Scope and Sequence of Student Competencies, which identifies for the classroom teacher four specific areas of the comprehensive school health education program: first, the eleven Minnesota school health education goals; second, the learner outcomes; third, individual student competencies; and fourth, teaching strategies.

To adopt, practice, and/or maintain sound health habits through life, one needs basic health information, adequate health promotion skills, and the attitudes and personal respect

that are required by a commitment to good health. Earlier efforts in school health education focused, almost entirely, on basic health information. Assisting an individual adopt a greater number of positive health habits through a health education class has many similar strategies to assisting an individual achieve greater athletic skill. For example, to assist an athlete in achieving greater basketball competency, the coach does more than merely have the athlete read the rule book and, after several days, check to see if the athlete can spell "dribble" or define "free throw". The coach will also have the athlete develop skills -- physical, mental, emotional, social -- for successful participation.

Likewise, the school health educator must go beyond the "rule book" in assisting learners to achieve healthy behaviors. Skills and "game" strategies are of vital importance to be included in all school health programs. The Minnesota School Health 110 Program identifies some of those competencies that can be addressed in a typical classroom setting.

NATURE OF THE MINNESOTA SCHOOL HEALTH EDUCATION MODEL

In 1985 the Minnesota Legislature stated: "The purpose of public education is to help students acquire knowledge, skills, and positive attitudes toward self and others that will enable them to solve problems, think creatively, continue learning and develop maximum potential for leading productive, fulfilling lives in a complex and changing society." Minnesota is currently embarking on the biggest challenge of all, revamping how to provide instruction to ensure that every student succeeds. Minnesota is developing an outcome-based education (OBE) system that will move its students to a new set of standards where they will have to demonstrate that learning has taken place.

Since the Minnesota Board of Education requires that a comprehensive program of studies be offered in every school, health education is but one subject area found in the K-12 curriculum. The School Health Education component of the Minnesota Department of Education has addressed the challenge of integrating comprehensive school health (K-12) into OBE by developing a model referred to as the Minnesota School Health Education Model. The structure of this model can be examined in Figure 1. Lines connecting each of the four components are used to illustrate that the model components are dynamic, interrelated, supportive, and dependent on each other (Wandberg, 1990).

The model is predicated upon four primary components: One, school health education goals focusing on health promotion/disease prevention efforts related to the major health threats facing our population; two, learner outcomes which are behavioral rather than cognitive in nature; three, student competencies which focus on student skills; and four, teaching strategies which focus on methodology. The following provides a brief description of each component and the process by which the Minnesota School Health Education Model evolved.

A goal is the end toward which a particular process is intended to progress. A health goal, therefore, is the predetermined purpose of a health learning experience. Goals in the

Minnesota School Health Education Model define the purpose or intent of a comprehensive school health education program rather than focusing on content area. Through appropriate instruction for students, goals identify health targets which, for example, improve dietary practice, fitness, mental and emotional health, and prevent and control injuries.

Assistance in the development of these program goals, linked with the National Health Objectives for the Year 2000 (U.S. Public Health Service, 1991), were determined by nearly 700 Minnesota health and education professionals. The 11 program goals included in the Minnesota School Health Education Model are: **1) Prevent tobacco use, 2) Prevent and control injuries, 3) Prevent and reduce alcohol and other drug problems, 4) Improve dietary practices, 5) Improve health-related physical fitness, 6) Prevent, reduce risks, and control disease and disorders, 7) Prevent and reduce sexual health problems, 8) Improve personal health practices, 9) Improve social, emotional and mental health, 10) Improve family living, and 11) Improve community and environmental health.**

Outcomes, in the traditional sense of the word, have been frequently referred to as objectives. These generally are statements specifying what students are expected to know, be able to do, prefer, or believe as the result of specific instruction. Outcomes in the Minnesota School Health Education Model are different in that they describe the health behaviors/habits which could be addressed in a classroom, and that if attained would contribute to the achievement of the respective program goals. The Minnesota school health education outcomes, therefore, define the specific consequences, effects, or results of the school health education curriculum in behavioral terms.

A total of 84 learner outcomes have been determined for the 11 program goals. Once again, as with the goals, professionals from public health, college and university, government and public school environments, who know and are familiar with the needs of school-aged children, convened in several workshop sessions to identify the learner outcomes. The importance of using federal language from the National Center for Disease Control was recommended. Other resources used in identifying the learner outcomes came from local school district and nationally validated school health curricula. To illustrate examples of learner outcomes identified for the goal to **Prevent tobacco use** are that students: **1) will abstain from using tobacco; 2) using tobacco will quit; and 3) will influence friends and family members not to use tobacco.** As another example, for the goal to **Prevent and control injuries** the learner outcomes are that students will: **1) properly use appropriate safety devices, including seatbelts; 2) follow appropriate safety procedures when necessary; 3) perform approved first aid procedures when necessary; and 4) perform approved CPR procedures when necessary.**

Once realistic and meaningful goals and outcomes have been established, student competencies can be developed and described. Competencies are described as achieved "wisdoms". They are the knowledge, attitudes and skills which students must demonstrate. These comprehensive school health education competencies are systematic and verifiable and strongly reflect the national as well as State school health education priorities. All

competencies can be instructionally addressed and easily verified in a typical elementary or secondary classroom setting. By achieving the competencies, the student will have the wisdom and ability to achieve the learner outcomes which in turn achieve the program goals. In this regard, state-level resource experts in school health education curricula convened first in teams to write the student competencies for each of the 11 goals and 84 outcomes. Next, teams were organized by separate grades (K-12) to examine consistency in the use of developmentally appropriate language and achievements for each competency written.

Since direct school health instruction is required in all Minnesota public elementary grades, middle levels and high schools (including a mandate to offer an "elective" course at the secondary level), the state-level resource experts deemed it appropriate to develop the competencies within that organizational framework. Thus, each required grade level and elective course were targeted when writing the competencies.

The student competencies are identified within the instructional dimensions of the cognitive, affective, personal skills, and social action domains. The cognitive dimension focuses on the mental or intellectual outcomes such as knowledge, comprehension, analysis, synthesis, and evaluation. It is also characterized by the ability to apply new health information to decision-making. The affective domain centers on emotional, feeling, and attitudinal outcomes. This domain includes any changes in the individual's covert behavior. Personal skills are related to personal proficiency and ability outcomes. In contrast to the affective domain, personal skills are characterized by overt behavior. The social action dimension focuses on how the student might enhance the health of his/her family, friends, and community. This domain, like personal skills, is also characterized by overt behavior. Regardless of the instructional dimension in which they fall, these student competencies have certain common characteristics: 1) They are the expected end result of learning experiences; 2) They are concerned with the product of learning rather than the process of learning; 3) They are associated with the learner rather than the teacher, the content, or the approaches; and 4) They are the result of learning. Figure 2 represents an illustration of the four instructional dimensions from kindergarten through grade 12 including the elective course using the goal to **Prevent tobacco use** and the three identifiable learner outcomes.

Once the goals, outcomes, and student competencies have been planned, the teacher must decide on a delivery strategy that will maximize the opportunity for the students to achieve the competencies. When related to goals, outcomes, and competencies, teaching strategies have a purpose. That purpose is to afford students the opportunity to attain desired competencies. A teaching strategy is, therefore, a technique used by the teacher to help the student understand a particular concept and/or practice a specific personal skill or social action. We do not wish to suggest that there is only one appropriate way to deliver instruction to the students. The teacher needs to examine closely the intended competencies and target audiences and then attempt to match those with some workable strategies for instruction.

The final step then in the development of the Minnesota School Health Education

Model was to develop a product that aligns the school health scope and sequence K-12 competencies with multiple suggested teaching strategies designed to ensure student competency achievement (Rohwer, 1992). A total of 12 key elementary, junior, senior high teachers and higher education personnel convened to provide the research, standardized descriptions and models for strategy selection and alignment. A total of 16 different teaching strategies were identified and defined. They are: brainstorming, cooperative learning, demonstrations, discussion (i.e.. research, data gathering, and reading), instructional aids (i.e.. computer, media and printed materials), lecture, lecture/discussion, problem solving/decision making, resource speakers, role play, self appraisal/health inventories, student presentations, values clarification, and written communication (i.e.. journals, reports and essays). The key educational personnel examined each competency for their respective grade levels and identified multiple teaching strategies they believed appropriate in assisting students towards achieving those competencies. Figure 3 delineates an illustration of the key teaching strategies selected by the panel of educators for implementation at the 6th grade level where the health goal is to **prevent tobacco use.** The figure identifies a student competency in each of the four instructional domains; namely, the cognitive, affective, personal skills and social action domains with concomitant teaching strategies that if utilized by the teacher will ensure respective student competency achievement. It was, therefore, the intent of this initiative to provide this product as a guide for teachers to follow and use when they desired direction in curriculum development and/or instruction. This was not to imply that the alignment of teaching strategies with student competencies was an end to a means but only a guideline.

IMPLICATIONS

With use, as intended, the Minnesota School Health Education Model serves as a tool for school health teachers and curriculum leaders in the development, delivery, evaluation, and community communication of the school's/district's comprehensive school health instructional program.

The Minnesota School Health Education Model will assist curriculum leaders in the planning and development of a sound comprehensive school health instructional scope and sequence. Teachers will have a precise foundational tool from which to develop specific teaching strategies, resources, and verification strategies.

User reports suggest that by using this model, curriculum planners have been able to "hit the road in full stride". In the initial curriculum planning stages, substantial time can be saved in the curricular foundation building stages. National goals, state mandates, content categories, and organizational format has been completed (trends and issues).

This model allows for flexibility. Curriculum leaders are encouraged to accurately determine the state, community, and school health education priorities. In addition to these priorities, the instructional program should be founded in the community's, and school's strengths - their resources and expertise. These provide for the efficient and effective

program development, delivery, and evaluation as well as community communication. Armed with this data, program planners will be able to "adjust" the model to more accurately reflect the wishes, needs, and abilities of the school and community.

SUMMARY

These comprehensive school health education systematic, verifiable competencies strongly align with the major 1992 Minnesota legislative and State Board of Education initiatives focusing on Outcome-Based Education. The student competencies cover the instructional domains of knowledge, attitudes, personal skill and social action. All competencies can be instructionally addressed and easily verified in a typical classroom setting. By achieving the competencies, the student will have the wisdom and ability to achieve the learner outcomes (health enhancing behaviors) which in turn achieve the state program goals.

Comprehensive school health education does make a positive difference in the health behavior of youth. Health enhancing behaviors do not "just happen." They need constant attention requiring supportive information, reinforcement from the community and the family, attitude formation, and skill development. As schools develop and enhance comprehensive school health education programs, they are encouraged to involve teachers, parents, and the community in the process.

The Minnesota School Health Education 110 Program seeks to help close the traditional gap between knowledge and behavior by broadening school health education to include the affective areas of attitudes and social skill development that result in social action and therefore in improved health throughout communities.

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FIGURE 1

MINNESOTA SCHOOL HEALTH EDUCATION MODEL

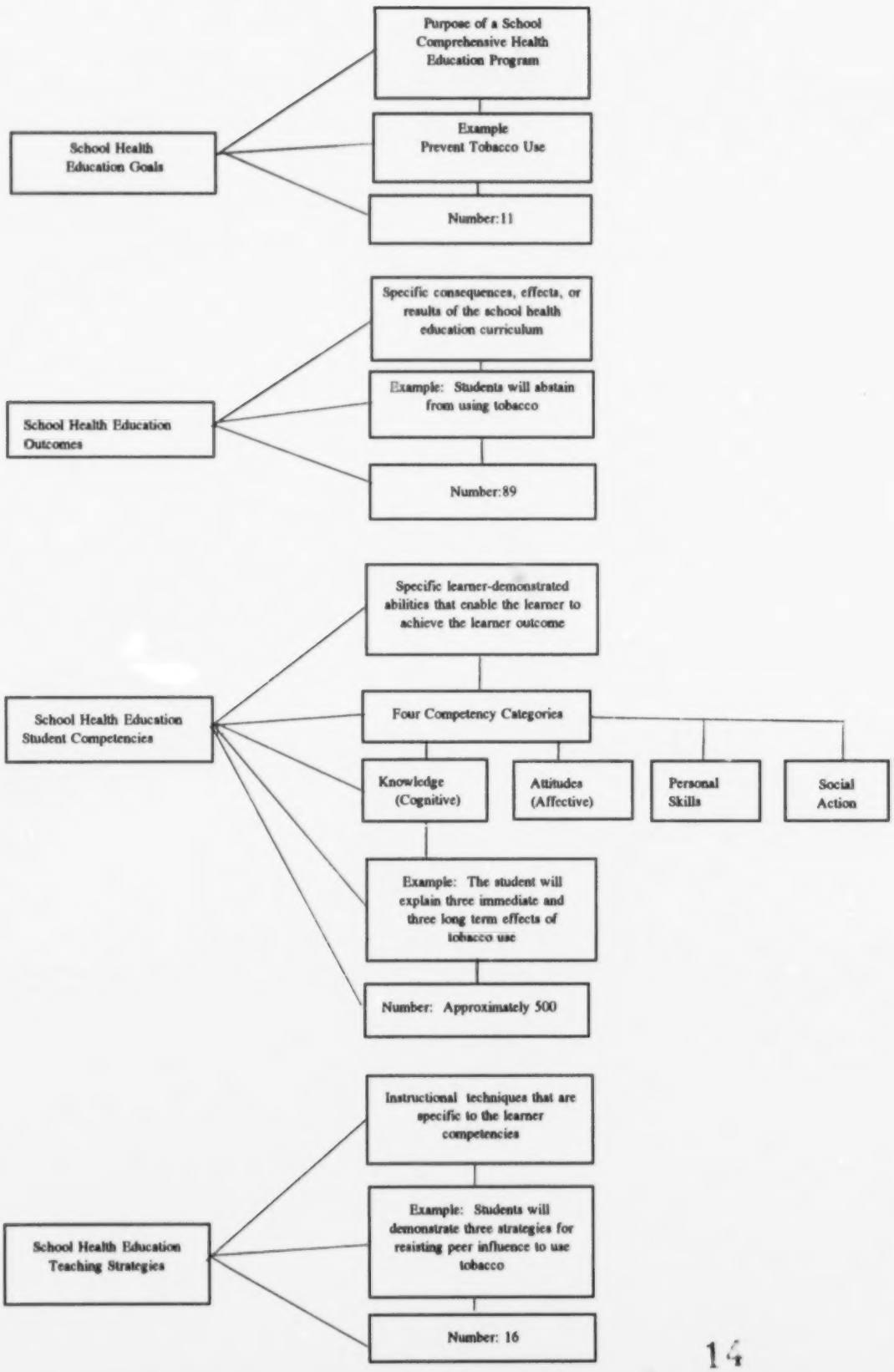
School Health Education Goals
Purpose of a School Comprehensive Health Education Program
Example Prevent Tobacco Use
Number: 11
School Health Education Outcomes
Specific consequences, effects, or results of the school health education curriculum
Example: Students will abstain from using tobacco
Number: 89
School Health Education Student Competencies
Specific learner-demonstrated abilities that enable the learner to achieve the learner outcome
Four Competency Categories
Knowledge (Cognitive)
Attitudes (Affective)
Personal Skills
Social Action
Example: The student will explain three immediate and three long term effects of tobacco use
Number: Approximately 500
School Health Education Teaching Strategies
Instructional techniques that are specific to the learner competencies
Example: Students will demonstrate three strategies for resisting peer influence to use tobacco
Number: 16

FIGURE 2

Representative Sampling of Instructional Dimensions Used within the Minnesota 110 School Health Program

Program Goal: Prevent Tobacco Use

Learner Outcomes: 1) Abstain from using tobacco;
2) Using tobacco will quit; and
3) Influence friends and family members not to use tobacco.

GRADE	COMPETENCIES	INSTRUCTIONAL DOMAIN
K	State five things people can do to stay healthy, including not smoking.	Cognitive
1	Describe three effects of secondhand smoke on nonsmokers.	Cognitive
2	Demonstrate two effective strategies for encouraging friends or family members not to use tobacco.	Social Action
3	Describe a personal commitment to remain tobacco-free.	Personal Skill
4	Recommend four strategies for creating and/or maintaining a smoke-free environment.	Social Action
5	Describe and compare ten effects of cigarettes and smokeless tobacco on various body systems.	Cognitive
6	Demonstrate three strategies for resisting peer influence to use tobacco.	Personal Skill
Middle Level (7th-8th)	Analyze how peer influence and advertising affect decisions about tobacco use.	Affective
High School	Evaluate five techniques for helping a friend or family member quit using tobacco.	Social Action
Elective	Evaluate the problems and benefits of proposals to ban tobacco advertising in the United States	Affective

Note: For each program goal in each of the required grade levels and elective course, several competencies were written.

FIGURE 3

Representative Sample of Selected Teaching Strategies to Ensure Student Competency Achievement at the 6th Grade Level

Program Goal: Prevent Tobacco Use

Learner Outcomes:
1) Abstain from using tobacco;
2) Using tobacco will quit; and
3) Influence friends and family members not to use tobacco.

COMPETENCIES	TEACHING STRATEGIES
1. Cognitive • students will list ten immediate (physical and social) effects of tobacco use.	a.) demonstrations b.) inquiry c.) instructional aids d.) lecture e.) lecture/discussion
2. Affective • students will explain why most people do not use tobacco products.	a.) brainstorming b.) discussion activities c.) instructional aids d.) resource speakers
3. Personal Skills • students will practice and demonstrate three strategies for peer influence to use tobacco.	a.) demonstrations b.) inquiry c.) instructional aids d.) lecture e.) lecture/discussion
4. Social Action • students will describe three strategies for encouraging tobacco users to quit.	a.) discussion b.) role playing c.) student presentations d.) written communication